

PATENT SPECIFICATION

Convention Date (Germany): April 9, 1936.

493.765

Application Date (In United Kingdom): April 9, 1937. No. 10211/37.

Complete Specification Accepted: Oct. 10, 1938.

(Under Section 91, subsections (2) and (4) (a) of the Patents and Designs Acts, 1907 to 1932, a single Complete Specification was left in respect of this Application and of Application No. 10212/37 and was laid open to inspection on Oct. 11, 1937).



COMPLETE SPECIFICATION

Improvements in or relating to the Removal of Paints, Lacquers and Varnishes

We, DEUTSCHE HYDRIERWERKE
AKTIENGESELLSCHAFT, a Joint Stock
Company organized under German Law,
of Postfach 32, Dessau-Rosslau, Ger-
many, and Kantstrasse 163, Berlin-Char-
lottenburg, Germany, do hereby declare
the nature of this invention and in what
manner the same is to be performed, to be
particularly described and ascertained in
and by the following statement:—

The present invention relates to im-
provements in or relating to the removal
of paints, lacquers and varnishes.

According to the present invention we
provide a method of removing paints,
lacquers and varnishes from surfaces, in
which the surfaces are treated with com-
positions comprising one or more organic
solvents of the type which is suitable for
the removal of paints, lacquers or var-
nishes from surfaces and one or more
alkali, alkaline-earth or earth metal
alcoholates derived from aliphatic, cyclo-
aliphatic or fatty aromatic compounds
containing alcoholic hydroxyl groups and
having in the molecule at least six carbon
atoms.

The term "earth metals" is to be
understood herein as referring to mag-
nesium, aluminium and zinc.

The alcoholates in question are obtained
by methods known *per se* or, in so far as
they are new compounds, are produced
analogously to the known higher
alcoholates.

Amongst the aliphatic hydroxy-com-
pounds from which the said alcoholates
may be derived there may be mentioned
firstly the high molecular aliphatic
alcohols, such as lauryl alcohol, myristyl-
alcohol, cetyl-alcohol, stearyl-alcohol and
oleyl alcohol, further the mixtures of
such alcohols obtainable by the catalytic
reduction of natural fatty acid ester mix-
tures, such for example as the fatty
alcohol mixtures obtained by the reduc-
tion of cocoa-nut oil, tallow, castor oil,
linseed oil, wood oil, as well as
of the naturally occurring waxes such as

sperm oil, spermaceti, carnauba-wax, 50
beeswax and wool fat. Furthermore,
there may be mentioned in this connec-
tion those alcoholic hydroxy-compounds
which are obtainable by partial etherifi-
cation of low molecular polyhydric alco- 55
hols such as glycol or glycerine with the
high molecular aliphatic alcohols or also
ester alcohols obtained by partial esterifi-
cation of the above mentioned polyhydric
alcohols with higher molecular organic 60
carboxylic acids. Amongst the cyclo-
aliphatic hydroxy-compounds to be con-
sidered as components there may be men-
tioned in the first place products such as
cyclo-hexanol, methyl-cyclo-hexanols, ac- 65
tetrahydronaphthols, decahydronaph-
thols, hydrogenated dicesylmethanes,
further those cyclo-aliphatic alcohols
which are obtainable by catalytic reduc-
tion from certain natural products such 70
as, for example, the naphthenic alcohols
obtained from the naphthenic acids or the
resin-alcohols obtained from resins or
resin acids, especially colophony, copal-
resin, dammar-resin. Also partial etheri- 75
fication-products of glycol, glycerine etc.
with these products may come into con-
sideration. Finally, amongst the fatty
aromatic alcohols benzyl-alcohol and
phenyl-ethyl-alcohol which are likewise 80
usable as hydroxyl groups-bearing com-
ponents may be mentioned.

As metal components of the alcoholates,
sodium, potassium, calcium, barium,
magnesium, zinc and aluminium have 85
proved particularly suitable.

It should be understood that in the
metal alcoholates derived from hydroxyl
group-containing substances containing in
addition ester groups which we employ, 90
no appreciable saponification of the ester
groups has taken place.

The alcoholates described are worked up
into gel-like compositions with organic
solvents of the type which is suitable for 95
the removal of paints, lacquers or var-
nishes from surfaces. There may be men-
tioned as examples of solvents of this type

benzene, tetrahydronaphthalene, ethyl alcohol, methylene chloride.

The gel-like masses may be painted or smeared on to objects from which it is desired to remove paints, lacquers or varnishes and may be left there for some time without their running off or vaporising. The solvents employed in any particular case may be chosen according to the paints, lacquers or varnishes which it is desired to remove. When the action is complete the compositions may be washed off the object together with the paints, lacquers or varnishes.

In order that the invention may be well understood the following Examples thereof will be given by way of example only.

EXAMPLE 1.

35 parts by weight of sodium-metal are caused to act for 20 hours on 1,000 parts by weight of a mixture of approximately equal parts by weight of cetyl-alcohol and stearyl-alcohol in a closed vessel, while keeping the temperature at 230° C. The reaction-product thus obtained consists of a hard mass which is fatty to the touch. By dissolving 7.5 parts by weight of this mass in the warmth, in 42.5 parts by weight of tetrahydronaphthalene and adding to this solution, after cooling, 15 parts by weight of benzene, 15 parts by weight of ethyl alcohol and 20 parts by weight of methylene-chloride while vigorously stirring, a transparent jelly-like paste is obtained, which is employed as corrosive or removing agent for oil-lacquers, oil- and varnish-colours.

EXAMPLE 2.

300 parts by weight of a mixture of approximately equal parts of cetyl-alcohol and stearyl-alcohol are heated with 30 parts by weight of calcium-oxide for 10 hours at 230° C. The mixed alcoholates produced represent a hard product of an earthy-waxlike feel. 5 parts by weight of this product are dissolved in 77 parts by weight of tetrahydronaphthalene while heating. After cooling 5 parts by weight of castor oil are added to this solution. The resulting gelatinous paste is employed as a cleansing- and surface-treatment-preparation for enamel, glass, wood, artificial masses and the like. The cleansing effect may be enhanced by an addition of infusorial silica (kieselguhr) or chalk powder.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim

is:—

1. A method of removing paints, lacquers and varnishes from surfaces, in which the surfaces are treated with compositions comprising one or more organic solvents of the type which is suitable for the removal of paints, lacquers or varnishes from surfaces and one or more alkali, alkaline-earth or earth metal alcoholates derived from aliphatic, cycloaliphatic or fatty aromatic compounds containing alcoholic hydroxyl groups and having in the molecule at least six carbon atoms.

2. A method as claimed in Claim 1, in which compositions containing one or more of the following solvents are employed: benzene, tetrahydronaphthalene, ethyl alcohol, methylene chloride.

3. A method as claimed in either of Claims 1 or 2 in which compositions containing alcoholates derived from technical mixtures of alcohols obtained by reduction of naturally occurring fatty acid mixtures, oils, fats or waxes are employed.

4. A method as claimed in either of Claims 1 or 2 in which compositions containing alcoholates derived from hydroxy compounds obtained by partial etherification of low molecular polyvalent alcohols with high molecular aliphatic alcohols are employed.

5. A method as claimed in either of Claims 1 or 2 in which compositions containing alcoholates derived from hydroxy compounds obtained by partial esterification of low molecular polyvalent alcohols with high molecular organic carboxylic acids are employed.

6. A method as claimed in either of Claims 1 or 2 in which compositions containing alcoholates derived from the following hydroxy compounds are employed:—cyclohexyl alcohol, methyl-cyclohexyl alcohols, ac-tetra-hydronaphthols, decahydronaphthols, hydrogenated dieresyl methanes, naphthenic alcohols obtainable by reduction of naphthenic acids or mixtures of resin alcohols obtainable by reduction of resins or resin acids.

7. A method of removing paints, lacquers and varnishes from surfaces, substantially as described.

Dated the 9th day of April, 1937.

For the Applicants,
FRANK B. DEHN & CO.,
Chartered Patent Agents,
Kingsway House,
103, Kingsway, London, W.C.2.